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# (12) United States Patent

## Carlson et al.

#### (54) VEHICLE VENT VALVE ASSEMBLY

(75) Inventors: **Daniel D. Carlson**, Fenton, MI (US); **J.** 

Michael Andrews, Plymouth, MI (US)

(73) Assignee: Illinois Tool Works, Inc., Glenview, IL

(US

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#### (58) Field of Classification Search

See application file for complete search history.

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Primary Examiner — Steven B McAllister Assistant Examiner — Jonathan Cotov

#### (57) ABSTRACT

An apparatus includes a vent valve movable between a closed condition blocking air flow through a vent opening and an open condition enabling air flow through the vent opening. A door position sensor assembly is operable from a first condition to a second condition in response to movement of a vehicle door from a closed position to an open position and is operable from the second condition to the first condition in response to movement of the vehicle door from the open position to the closed position. An actuator assembly operates the vent valve from the closed condition to the open condition upon operation of the door position sensor assembly from the first condition to the second condition and releases the vent valve for movement from the open condition to the closed condition upon operation of the door position sensor assembly from the second condition to the first condition.

#### 28 Claims, 18 Drawing Sheets

